PTO/SB/08a (05-03)

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Examiner	Cite	Document Number	Publication Date	Name of Patentee or	Pages, Columns, Lines, Where Relevant Passages or Relevant
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application Number 10/081,771
Filing Date February 20, 2002
First Named Inventor COX, DAVID R.
Art Unit 1655
Examiner Name
Attorney Docket Number UCSF-127CIP2

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5,679,522

Application Number 10/081.771

Filing Date February 20, 2002

First Named Inventor Cox. et al.

Group Art Unit 1655

Examiner Name Unassigned

Attorney Docket Number UCSF-127CIP2

10-21-1997

**U.S. PATENT DOCUMENTS** Pages, columns, lines, **U.S. Patent Documents** Name of Patentee or Applicant **Date of Publication** Examiner Cite Where Relevant No.1 Kind Code<sup>2</sup> of Cited Documents of Cited Document Initials' Number Passages or Relevant · MM-DD-YYYY (if known) Figures Appear 09-25-1990 4,959,317 Sauer 5,376,526 12-27-1994 Brown, et al. Wahl, et al. 08-05-1997 5,654,182

	FOREIGN PATENT DOCUMENTS							
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y/oc	•	FERRIN, et al. "Selective cleavage of human DNA: RecA-assisted restriction endonuclease (RARE) cleavage", Science (1991) Vol. 254: 1494-1497.	
Hac		GROMPE. "The rapid detection of unknown mutations in nucleic acids", Nature Genetics, (1993) Vol. 5: 111-117.	
Hac		LANDER, et al. "Homozygosity mapping: A way to map human recessive traits with the DNA of inbred children", Science, (1987) Vol. 236: 1567-1570.	
Hec		MASHAL, et al. "Detection of mutations by cleavage of DNA heteroduplexes with bacteriophage resolvases", Nature Genetics, (1995) Vol. 9: 177-183.	
Hae		MILLS, et al., "Electrophoretic Evidence That Single Stranded Regions of One or More Nucleotides Dramatically Increase the Flexibility of DNA," <i>Biochemistry</i> (1994), Vol. 33: 1797-1803.	
Hac		MODRICH. "Mechanisms and biological effects of mismatch repair", Annu. Rev. Genet., (1991) Vol. 25: 229-253.	
Hec		MYERS, et al. "Nearly all single base substitutions in DNA fragments joined to a GC-clamp can be detected by denaturing gradient gel electrophoresis", N.A.R., (1985) Vol. 13: 3131-3145.	
Hac		MYERS, et al. "Detection of single base substitutions by ribonuclease cleavage at mismatches in RNA: DNA duplexes", Science, (1985) Vol. 230: 1242-1246.	
Hac		MYERS, et al. "Detection and localization of single base changes by denaturing gradient gel electrophoresis", <i>Meth. Enzym.</i> , (1987) Vol. 155: 501-527.	
Hoc		ORITA, et al. "Rapid and sensitive detection of point mutations and DNA polymorphisms using the polymerase chain reaction", <i>Genomics</i> , (1989). Vol. 5: 874-879.	
HOC		ORITA, et al. "Detection of polymorphisms of human DNA by gel electrophoresis as single-strand conformation polymorphisms", <i>P.N.A.S.</i> , (1989) Vol. 86: 2766-2770.	
AOC		PARKER, et al. "Repair of DNA heteroduplexes containing small heterologous sequences in <i>Escherichia coli</i> ", <i>P.N.A.S.</i> , (1992) Vol. 89:1730-1734.	
Hee	/	PERRY, et al. "Hydrolink gels: A rapid and simple approach to the detection of DNA mutations in thromboembolic disease", Clin Pathol., (1992) Vol. 45: 158-160.	

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Filing Date	February 20, 2002	
First Named Inventor	Cox. et al.	2
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160		RAPOSA, et al., "Some Features of Base Repair Mismatch and Heterology Repair in Escherichia coli," <i>Genetics</i> (1987), Vol. 117: 381-390.	
Hac		RISCH. "Linkage strategies for genetically complex traits: The power of affected relative pairs", Am. J. Hum. Genet., (1990) Vol. 46: 229-241.	
Hec		SANDA, et al. "Genomic analysis I: Inheritance units and genetic selection in the rapid discovery of locus linked DNA markers", <i>Nucleic Acids Res.</i> , (1986) Vol. 14: 7265-7282.	
Hee		SHEFFIELD, et al. "Attachment of a 40-base-pair G+C-rich sequence (GC-clamp) to genomic DNA fragments by the polymerase chain reaction results in improved detection of single-base changes", P.N.A.S. (1989), Vol. 86: 231-236.	
Heal		WAGNER, et al. "Repair tracts in mismatched DNA heteroduplexes", P.N.A.S., (1976) Vol. 73: 4135-4139.	
Hge		WANG, et al. "Large-scale identification, mapping, and genotyping of single-nucleotide polymorphisms in the human genome", <i>Science</i> , (1998), Vol. 280: 1077-1082.	
Hod		WHITE, et al. "Detecting single base substitutions as heteroduplex polymorphisms", Genomics, (1992). Vol. 12: 301-306.	
Hac		YOUIL, et al. "Screening for mutations by enzyme mismatch cleavage with T4 endonuclease VII", P.N.A.S., (1995) Vol. 92: 87-91.	

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